Exploring Additional Oral-Osmotic Absorption Vector Neuro-Active Compounds and Their Likely Modes of Action

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Introduction

If, as published recently, hydrogenated oils can be absorbed through the roof of the mouth and can trigger hormone production in the hypothalamus that ultimately leads to increased LDL production in the liver, what other chemicals may have a neuro- or psychoactive effects as a result of osmotic absorption through the roof of the mouth?

A good starting point from which to search for such examples is to re-examine consistently reported idiopathic neuroactive effects associated with the consumption of particular foods. Two primary examples come to mind without much effort.

The first is the observed positive correlation between consuming peppermint and increased attention and focus. Possible hypotheses as to the source of this effect proposed include direct olfactory pathway stimulation, intestinal absorption of an as-yet unidentified chemical, and the proposition that perhaps the peppermint has nothing to do with the effect at all, but that the act of chewing on virtually anything helps to prevent distraction and perseverative thoughts and behaviors associated with Attention Deficit Disorder that adversely affect test scores.

While that last possibility may, indeed, be a factor, studies have found that peppermint seems to have an effect that even other types of mint do not on alertness. It may be worth investigating whether a compound found in peppermint influences brain activity through osmotic absorption. If it does, it may be useful to know which chemical is responsible and which neurotransmitters are boosted in response.

Another example of possible oral-osmotic absorption with neurotropic effects may be betrayed by an observed difference in the occurrence of undesired effects associated with caffeine consumption, specifically in the case that the source of the caffeine is tea.

Tea drinkers are more likely to report jitteriness, paranoia, and aggressive behaviors than individuals consuming caffeine from other sources. At first glance, this would seem to plausibly be the result of structural differences between the caffeine molecule found in tea as opposed to the one found in coffee. Upon closer evaluation, it appears that the structural differences between the two molecules are not sufficient to justify making a clinical pharmacokinetic distinction between the compounds, at least in terms of its effects that result from intestinal tract absorption.

If, however, caffeine or other chemicals found in tea were absorbed directly into the brain through osmosis in greater quantities than when coffee is

consumed, this would be a clinically significant distinction of which researchers and consumers alike would benefit from being made aware.

I find it highly likely that there is a significant difference between the oral-osmotic absorptive tendency of tea as opposed to coffee and the evidence of that has, I suspect, been staring tea drinkers in the face for centuries.

Pour a cup of tea, preferably in a white cup or mug and observe the way that a residue is deposited on the bottom as well as the sides of the cup which will not rinse away easily. Coffee is also potentially staining, but in a porcelain cup, coffee's stains will generally be rinsed away by water without scrubbing whereas tea stains will require some elbow grease to remove.

If that crust found within a teacup similarly forms on the teeth and the roof of the mouth and is not completely rinsed by saliva, it stands to reason that whatever chemicals are found in that crust would be, over a period of hours, osmoted into the cranial cavity and would have potential neurotropic effects. In all likelihood, those chemicals are something other than caffeine that alters brain activity.

There are some parallels between the behavior of a person who has consumed large quantities of tea and a person exhibiting exhaustion-induced rage. Just as a person might suffer from a rage attack from being winded (an evolutionary response to compensate for vulnerability,) the chemicals found in tea that are other than caffeine may mimic the effect of glutamate accumulation on the brain's perception of sleep deficit.

During extended periods of wakefulness (per my own theory, one which was recently confirmed by a French scientist) glutamates accumulate and act as electrical impulse suppressors which prevent the weakest of electrical signals from reaching their destination, impairing brain function. The human brain has evolved to be able to, when necessary, compensate for sleep deprivation by stepping up activity in the innermost parts of the brain, sometimes referred to as the reptilian brain, thus allowing this part of the brain more influence in the overall balance of the various brain regions. Therefore, in a sleep-deprived state, the reptilian brain becomes the loudest voice amongst many influences in our consciousness.

The human brain may, therefore, it stands to reason, have a means of continuously gauging glutamate levels and using that information to pre-emptively step up the amperage of lower-brain activity. If a compound found in these tea deposits is absorbed into the brain and tricks this mechanism into thinking glutamate levels are higher than they really are, the reptilian brain would take over, and paranoid tendencies may directly result, even when an individual is well-rested and glutamate levels are low.

Conclusion

These are merely two examples of candidate oral-osmotic absorptive foods/drinks and are by no means the only substances that can be absorbed in this way. This is an underdeveloped and dare I say, entirely neglected field of

study deserving of closer consideration by the medical research community at large.